REMARKS

The present application was filed on September 19, 2003 with claims 1-27. The present response amends claims 1-3, 6, 9, 11-13, 15-18, 20, 21, 24, and 25, cancels claims 22, 23, and 27, and adds claims 28-30. The independent claims are claims 1, 12, 13, 20, 21, 24, and 29. Amendments to the claims are supported, *inter alia*, by page 16, lines 15-22-29, page 8, lines 6-7, page 36, lines 23-24, and FIGS. 5 and 6 of Applicant's specification. No new matter has been added.

In the outstanding Office Action, the Examiner (1) rejected claims 1-4, 6, and 12-21 under 35 USC §102(b) as being anticipated by Franaszek et al., U.S. Patent No. 4,486,739 (hereinafter, Franaszek); (2) rejected claims 22-27 under 35 USC 103(a) as being unpatentable over Gleichart et al., U.S. Patent No. 5,387,911 (hereinafter, Gleichart) in view of Franaszek; and (3) objected to claims 5 and 7-11.

Regarding independent claims 1, 12, and 21, Applicant has amended these claims to include the limitations of having (A) a first step to translate five-bit source vectors to six-bit vectors by appending a sixth bit having a default value to the five-bit source vectors and having (B) a second step to generate primary six-bit coded vectors by complementation of selected one to four individual bits of selected six-bit vectors for a minority of the plurality of source vectors.

In other words, the plurality of five-bit source vectors comprise 32 possible vectors (see FIG. 5 of Applicant's specification). A minority of the five-bit source vectors would therefore be 15 or fewer vectors, and complementation of bits in limitation (B) of independent claims 1, 12, and 21 occurs for a minority of source vectors. In an exemplary embodiment of Applicant's invention, only nine source vectors have complementation of bits (see FIG. 5 of Applicant's specification).

In Franaszek, there are 32 five-bit source vectors (see Table 1 of Franaszek), but Franaszek discloses that 19 source vectors require bit changes (e.g., complementation) in the 5B/6B code of Franaszek (see Table 1 of Franaszek), which is larger than 15 source vectors and not a minority of the source vectors. Therefore, Franaszek does not disclose at least limitation (B) of amended independent claims 1, 12, and 21.

Consequently, Applicant respectfully submits that amended claims 1, 12, and 21 are patentable over Franaszek and request the §102(b) rejection of these claims be withdrawn. Because independent claim 1 is patentable, its rejected dependent claims 2-4 and 6 are also patentable for at least the reasons given above along with other features these claims add in combination with independent claim 1. Therefore, Applicant respectfully requests the §102(b) rejection to claims 2-4 and 6 be withdrawn.

With regard to independent claims 13 and 21, Applicant has amended these claims to contain limitations of (C) translating three-bit source vectors, together with one or more control inputs, into one of nine four-bit coded vectors by appending a fourth bit having a default value to source vectors to create four-bit vectors and (D) complementing a single one or two individual bits of selected four-bit vectors for a minority of the plurality of source vectors. In FIG. 6, Applicant shows that there are eight total source vectors and that source vectors having changes are Dx.0 (and Kx.0, if K is used), Dx.1 (and Kx.1, if K is used), and Dx.A7 (and Kx.A7 if K is used). Note that each data and control vector in the previous sentence (Dx.0 and Kx.0, for example) corresponds to a single source vector. Thus, in an exemplary embodiment, three source vectors have one or more bits complemented, which is a minority of source vectors.

By contrast, Franaszek discloses that four source vectors require bit changes (see Table 2 of Franaszek), which is greater a minority of source vectors and therefore does not meet at least limitation (D) of amended independent claims 13 and 21.

Applicant respectfully requests the §102(b) rejection to independent claims 13 and 21 be withdrawn. Because independent claim 13 is patentable, its dependent claims 14-18 are also patentable for at least the reasons given above along with other features these claims add in combination with independent claim 13. Applicant requests that the §102(b) rejections of claims 14-18 be withdrawn.

Regarding independent claims 22 and 27, these claims have been canceled. However, Applicant has amended claim 24 to be an independent claim and has added claim 29 as a method claim having limitations from amended claim 24. Claim 24 was rejected by the Examiner as being unpatentable over Gleichart in view of Franaszek. Applicant respectfully submits that the combination of Gleichart and Franaszek does not disclose the limitations in independent claims 24 and 29 of generating a first set of

control characters, the control characters in a first set being characterized by a first leading and first trailing coded vector and by a trailing run of 4 in the first leading coded vector followed by the first trailing code vector that is one of 13 unbalanced coded vectors or one of 15 balanced vectors that do not generate a run of six when following the first leading coded vector.

Therefore, Applicant respectfully submits that amended claim 24 and newly added claim 29 are patentable over the combination of Gleichart and Franaszek and request the §103(a) rejections of these claims be withdrawn. Because independent claim 24 is patentable, its dependent claims 25 and 26 are patentable for at least the reasons stated above with regard to claim 24, along with other features these claims add in combination with independent claim 24. Applicant requests that the §103(a) rejections of claims 25 and 26 be withdrawn. Additionally, newly added claim 28 depends from independent claim 24, so claim 28 is also patentable. Also, newly added claim 30 contains limitations from dependent claim 25 and depends from claim 29. Applicant submits that claim 30 is also patentable for at least the reasons stated above with respect to claim 29.

Applicant respectfully submits that claims 1-21, 24-26, and 28-30 are patentable. The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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Robert J. Mauri
Attorney for Applicant
Reg. No. 41,180
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06824
(203) 255-6560